To what extent was the British response to *Silent Spring* indicative of a tradition of 'top down' environmental politics?

Introduction

Silent Spring, by Rachel Carson, originally published in the United States in 1962, is said by many environmental historians to be the book that launched the modern environmental movement in America.[1] Stephen Fox even describes is as the 'Uncle Tom's Cabin of environmentalism'.[2] It was an instant best seller and was published in Britain the following year, before being translated into twelve languages. It reached fifth place in *Random House's* modern library list of the top 100 twentieth-century non-fiction, seventy-eighth in *National Review's* list of 'The 100 best non-fiction books of the century' and sixteenth in *Discover Magazine's* '25 Greatest Science Books of All Time'.[3] The book 'played a vitally important role in stimulating the contemporary environmental movement'.[4] Supporters included the United States' Secretary of the Interior Stewart Udall, President John F. Kennedy, and in Britain, Prince Philip.[5]

Many see the book as a defining totemic which inspired and engaged ordinary citizens to question science and industry. Never before had a book been as successful as *Silent Spring* in informing the public of the dangers of environmental pollution and destruction.[6] The book is a critique of uncontrolled pesticide use and especially the chemical DDT (dichlorodiphenyltrichloroethane). DDT was discovered at the end of the nineteenth century but only began being used during the Second World War, to combat insect-borne diseases. In 1945,

[1] Rachel Carson, *Silent Spring* (London, 2000, originally published 1963).
[2] Fox is quoted in Ramachandra Guha, *Environmentalism: A Global History* (New York, 2000), p. 69.
[3] http://www.randomhouse.com/modernlibrary/100bestnonfiction.html ; http://old.nationalreview.com/100best/100_books.html ; http://discovermagazine.com/2006/dec/25-greatest-science-books/article_view?b_start:int=1&page=2 -- accessed electronically 30 June 2010; Guha, *Environmentalism*, p. 72.
[4] Ralph H. Lutts, 'Chemical Fallout: Rachel Carson's *Silent Spring*, Radioactive Fallout & the Environmental Movement', *Environmental Review*, 9 (1985), p. 211.
[5] Guha, *Environmentalism*, p. 72.
[6] Lutts, 'Chemical Fallout', p. 211.

large amounts of the pesticide, seen as a miracle chemical, were made available in America for the public to use. At the same time, in the post-war period ordinary citizens were becoming increasingly alarmed at the effects of radioactive fallout from nuclear tests, from which the radioactive isotope Strontium-90 was found in cows' milk. That and the 'Cranberry Scandal' of Thanksgiving, 1959, where people were warned against eating cranberries due to their high pesticide content, along with the Thalidomide incident, led to a distrust of scientific and industry wisdom. The fact that much of this danger was unseen was even more terrifying.[7] Carson's book played on these fears in America. Britain did not have the same problems as America in issues such as radioactive fallout, but many ordinary citizens were politicised in the immediate post-war period through organisations such as the Campaign for Nuclear Disarmament (CND).[8]

Much has been written about Carson herself and the book's reception in America. The fledgling field of environmental history has helped keep Rachel Carson current and *Silent Spring* an important read. In Britain, however, with environmental history very much in its infancy, *Silent Spring* is much less written about. This study looks at the British response to the book, and compares it to that of the United States. Whilst some similarities occur, such as the book causing controversy on both sides of the Atlantic, there are also major differences, in political systems, farming methods, even simply in the geography of the two countries.

Principally, this study investigates whether the response to Carson in Britain was a 'bottom up' response (that is a response overwhelmingly coming from, and being generated by, ordinary citizens or grassroots environmental organisations) or a 'top down' response (a response largely coming from authority figures – the government, the scientific community, and member

[7] Lutts, 'Chemical Fallout', pp. 212-222.
[8] Veldman, *Fantasy*, Section II, pp. 115-205.

of the establishment, such as Prince Philip), as well as trying to place the book in the wider historical and environmental context of the period. The term pesticide within the confines of this study is used as a generic term to include insecticides, herbicides, fungicides, and any other toxic chemical.

The British response to *Silent Spring* was indicative of a tradition of 'top down' environmental politics. Why was this so? Why was the American response much more 'bottom up'? What effect does this have on the development of the environmental movement in both countries? The political and geographical differences between America and Britain – America having more agricultural land than Britain, thereby inherently using more pesticides, and the fear of invisible chemicals being taken in through food and drink were not present in Britain in the way they were in America – are responsible, in part, for the differences. The lack of general and specific scholarship of modern environmentalism and of *Silent Spring*, however, does pose challenges. The problems arise from the fact it is very difficult to judge people's response to something, unless specifically they have been interviewed or their response has been documented. 'Top down' responses can be judged through reviews and essays appearing in journals; but for ordinary people, the response is more difficult to chart. Whilst it is impossible to garner and understand totally the general public's response to pesticide use from the book, through the auspices of this study it is hoped that a better understanding of the differences between Britain and America will be reached.

Many historians have written about Carson and her place within American environmentalism. Adam Rome produced an article in 2003 investigating the various causes of the modern environmental movement in 1960s America. He states the movement appeared when

it did through a combination of authors like Carson, social movements like civil rights and the anti-war movement, and women becoming more politicised. He also stressed the importance of non-environmental historians using the environment in their work. Others, such as Ralph H. Lutts have connected Carson with the issue of radioactive fallout. Maril Hazlett has highlighted the relationship between Carson and gender studies, investigating gender and popular ecology in early reactions to *Silent Spring*.[9]

All these, however, are from an American viewpoint. Other than a chapter in Meredith Veldman's *Fantasy, the Bomb, and the Greening of Britain* there is no definitive history of environmentalism and the development of the environmental movement in Britain after the Second World War.[10] General environmental histories of Britain are few and far between. Brian Clapp's *An Environmental History of Britain since the Industrial Revolution* is more economic than environmental history and has no mention of Carson or *Silent Spring*. John Sheail's *An Environmental History of Twentieth-Century Britain* does contain some sections on Carson, which have been made use of for this study. However Sheail is a scientist in a government department and as such his book is a 'top down' approach to environmental history, writing from the point of view of the scientific establishment, and stressing its relation to environmentalism.[11] He does not connect *Silent Spring* with wider environmental ideas, and nor does he place Carson within a tradition of environmental thought which goes back to Marx and Darwin.[12] Frank

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[9] Adam Rome, '"Give Earth a Chance": The Environmental Movement & the Sixties', *Journal of American History*, 90 (2003), pp. 525-554; Lutts, 'Chemical Fallout', pp. 210-225; Maril Hazlett, '"Women vs. Men vs. Bugs": Gender & Popular Ecology in Early Reactions to *Silent Spring*', *Environmental History*, 9 (2004), pp. 701-729.
[10] Meredith Veldman, *Fantasy, the Bomb, & the Greening of Britain: Romantic Protest, 1945-1980* (Cambridge, 1994).
[11] Brian Clapp, *An Environmental History of Britain Since the Industrial Revolution* (London, 1994); John Sheail, *An Environmental History of Twentieth-Century Britain* (Basingstoke, 2002).
[12] 'The Powerboat & the Planet', *New Internationalist*, 309 (1999) - http://www.newint.org/features/1999/01/01/ecology/ -- accessed electronically 29 June 2010.

Graham Junior's book, *Since Silent Spring* published in 1970, is wide ranging and does make a comparison between Britain and America. He looks at the response to Carson from a government perspective, from both sides of the Atlantic, but he does so writing at a time when pesticides and Carson are still in public debate (DDT had not been banned yet in the United States and the Environmental Protection Agency, EPA, was established the same year his book was published).[13] It appears Britain followed North America in environmental ideas and organisations such as Greenpeace (founded in Canada in 1970 and in Britain in 1977) or Friends of the Earth (FOE, founded in America in 1969 and in Britain in 1971).[14]

David Pepper makes little mention of Carson in his book, *Modern Environmentalism: An Introduction* and does not seek, where he does mention Carson, to place her within a wider context of environmental ideas. Anna Bramwell, in her investigation into the history of ecology does mention Carson although again it is only briefly, consisting of a couple of pages out of a two hundred page book. Ramachandra Guha looks at world environmental history and does discuss Carson and even the reaction in Britain. But his book is barely one hundred and fifty pages and not very in-depth.

General books relating to the period in question – post-1945 Britain (especially the sixties and early seventies, roughly 1962-1975) – also largely ignore both Carson and the environment. *Britain since 1945*, consisting of over five hundred pages, dedicates a mere page to discussing the increase in conservation organisations in the 1960s and makes no other mention of the

[13] Frank Graham Jr., *Since Silent Spring* (London, 1970).
[14] Robert Lamb, *Promising the Earth* (London, 1996); Christopher Rootes, 'The Environmental Movement', in Martin Klimke & Joachim Scharloth, eds., *1968 in Europe: A History of Protest & Activism, 1956-1977* (Basingstoke, 2008), pp. 295-307.

environment or environmental ideas circulating at the time.[15] Kenneth Mellanby produced a book on pesticides in Britain in 1967; he does mention Carson. Indeed it is as a result of her book he is writing. However he tries to rectify some of Carson's errors, notably he writes a history from the point of view that pesticides are good.[16] He discusses the strengths of their use, much like Carson discussed their weakness. He adopts a more conservative viewpoint than Carson does, however.

Carson was not the first person to describe the damaging effects of pesticides upon the environment. Ever since Paris green was discovered and used at the end of the nineteenth century there have been criticisms in newspapers about uncontrolled pesticide use.[17] Michael B. Smith mentions that *Our Synthetic Environment*, by Murray Bookchin (writing as Lewis Herber) was published just a few months before Carson's book. Both books say much of the same things and used many of the same sources. He questions why Bookchin's book has gone into relative obscurity and Carson's been so vehemently criticised? Bookchin argued that there cannot be environmental justice without social justice. Much of his critique of society was simply too complex for many of the 'fringe' groups with which Carson particularly associated with. Carson was far less radical than Bookchin, yet her excellent writing style, allowing a difficult scientific argument to be accessible to the general public, and her gender and popularity, meant she had many enemies as well as friends.[18] It is interesting to note that contemporary environmental

[15] David Pepper, *Modern Environmentalism: An Introduction* (London, 2001); Anna Bramwell, *Ecology in the 20th Century: A History* (London, 1989); Guha, *Environmentalism* ; Kenneth O. Morgan, *Britain Since 1945: The People's Peace* (Oxford, 2001), p. 394.
[16] Kenneth Mellanby, *Pesticides & Pollution in Britain* (London, 1967).
[17] Lutts, 'Chemical Fallout', pp. 211-213.
[18] Michael B. Smith, '"Silent, Miss Carson!": Science, Gender & the Reception of *Silent Spring*', *Feminist Studies*, 27 (Autumn 2001), pp. 745-746.

arguments do include the belief that to solve environmental problems, social problems much first be solved.[19]

Silent Spring also appears within the wider context of gender politics, epitomised in the early 1960s with the publication of Betty Friedan's *The Feminine Mystique*. The book, published in 1963, described a feeling women have inside themselves, but one they did not speak about - principally, is this is? Is there nothing more? Carson and Friedan, though describing two different topics, have much in common. Through this study, Carson will be pleased within a wider debate about the representation of women and gender issues, largely using Friedan as comparison.[20]

As the historiography of post-1945 environmentalism is so lacking, the task of assessing why a 'top down' response to Carson occurred in Britain, is doubly difficult. However, through the use of British newspapers such as the *Times* and the *Guardian* and *Observer*, one can begin, slowly, to make some sense of the debate surrounding pesticide use in 1960s Britain. Debates in both Houses of Parliament also help, as does correspondence between Prince Philip and various government figures, as well as inter-departmental letters and memos. These reveal the divisions between different departments and scientists in relation to pesticide use. The papers of ecologist Charles Elton, held at the Bodleian Library, Oxford and entomologist George Ordish, held at the Museum of English Rural Life, Reading, are also useful to study. Reviews of the book in journals on both sides of the Atlantic are helpful in judging scientific response, and replies to those reviews – some criticising the reviewer – allow some judgement upon public opinion. These are challenges that this study faces – and will attempt to solve, in part.

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[19] Bob Hughes, 'Inequality costs the earth', *New Internationalist*, 433 (June 2010), pp. 16-19.
[20] Betty Friedan, *The Feminine Mystique* (London, 1963).

Chapter 1 – The American Experience

The response to Carson in America was largely a 'bottom up' response. Adam Rome shows that essentially the 'contributions of liberals, middle-class women, and antiestablishment young people' were the three strands that caused the environmental movement to emerge in 1960s America.[21] These were also the ones who took Carson's message to heart, and represent the 'bottom up' response to her. Although it is difficult to deem the public response of a book such as *Silent Spring* the fact it became a best seller, does reveal something of its appeal. The book had been number one on the *New York Times* best seller list for most of autumn, and sold 106,000 copies a week before Christmas 1962.[22]

Ralph H. Lutts describes one event in the 1950s, in particular, that made the general public aware of the dangers of invisible threats such as chemical pollution. As well as the American public being concerned about Strontium-90 in their food, one nuclear test, set off on 1 March 1954 in the middle of the ocean, had huge ramifications. Twenty eight Americans and 236 natives on the Marshall Islands were exposed, as well as a Japanese fishing boat that had no knowledge of the test, due to the fallout from the nuclear bomb blowing in the wrong direction. The twenty three sailors on board did not recognise the next few hours of whitish snow as anything specifically threatening. When they became ill, they returned to Japan – it was a fortnight before they reached land and more days before their illnesses were discovered. After months of being sick most recovered but one man died on 23 September.[23]

[21] Rome, '"Give Earth a Chance"', pp. 527, 552.
[22] Linda Lear, *Rachel Carson: Witness to Nature* (London, 1997), p. 426.
[23] Lutts, 'Chemical Fallout', pp. 213-214; Mark Hamilton Lytle, *The Gentle Subversive: Rachel Carson, Silent Spring & the Rise of the Environmental Movement* (New York, 2007), pp. 143-144.

Many of the fish they had brought back were contaminated, but this was not discovered until after they had been sold. 'Radioactive fish were also discovered on other tuna boats, creating near panic in a nation dependent upon the sea for protein'.[24] The events in Japan played out before the eyes of the world media. The previous year, shepherds in Utah had complained that nuclear weapons tests in Nevada had led to the deaths of more than 1,000 sheep. Officials from the Atomic Energy Commission (AEC) investigated and claimed that whilst the deaths of the sheep were unexplainable, it was definitely not caused by atomic tests.[25] The fact that DDT remained in the fatty tissues of mammals, once absorbed, was important. It echoed these earlier fears about radioactive fallout and the chemical unknown, which perhaps explains why Carson's book resonated with ordinary American citizens, the way it did.

Female supporters of Carson, mainly middle-class suburban housewives, were not suddenly radicalised by reading *Silent Spring*. Many were already concerned about environmental problems and conservation by 1962. 'In the Progressive Era women actively supported the conservation movement' (the Progressive Era occurring at the end of the nineteenth and beginning of the twentieth centuries).[26] Rome describes how many women's organisations rallied against industrial pollution, calling for clean skies, fresh air and urban parkland during this time, as a precursor to the environmental movement of the 1960s. Suburbs were seen as domestic places – and traditionally women were seen to look after the domestic sphere – and as a result of this, environmental threats in suburbia were threats to this women's arena. For middle-class women, whether it was Strontium-90 in their child's milk or DDT in their fatty tissue, environmental issues were an extension of their fears that surmounted from

[24] Lutts, 'Chemical Fallout', p. 214.
[25] Ibid., pp. 213-214.
[26] Rome, '"Give Earth a Chance"', p. 534.

being a mother and housewife.[27] Carson's 'crusade renewed the political power of homeowners and housewives'.[28] Thus the book gave women a renewed cause to rally behind.

The counter culture, predominantly a young person's phenomenon, and advocates of which were called hippies, also took Carson's book to heart. Many young people organised the first Earth Day in 1970, which had a resonance back to *Silent Spring*. Whilst during much of the early decade, young people were radicalised through civil rights and anti-Vietnam War demonstrations, rather than environmentalism, these anti-establishment and protest movements did hold many tactics and slogans replicated in the environmental movement that later in the decade. With the Cuban missile crisis at the beginning of the decade, many young people, post-war baby boomers, had fears of nuclear war, with the question 'would humanity survive'? The counter culture did not last long, but Carson fitted the beliefs of hippies nicely. Hippies 'inspired many young people to think more deeply about the earth' and many sought to find less environmentally destructive ways to live.[29]

Whilst ideologically the environmental movement drew young people from all parts of the political spectrum and none, *Silent Spring*, although not overtly political, did have a message that fitted with many of America's youth, especially those on the left. However it was more complex than simply a Left/Right movement. 'In many respects the environmental movement was a part of the Left – in others, however, it had more in common with conservatism. The environmental movement challenged the rights of property owners' yet at the same time environmentalists were often criticised as seeking to defend the interests of the privileged, and

[27] Ibid., pp. 534-541.
[28] Linda J. Lear, 'Rachel Carson's *Silent Spring*', *Environmental History Review*, 17 (1993), p. 23.
[29] Rome, '"Give Earth a Chance"' pp. 541-544.

being made up of a privileged class.[30] Nevertheless, there is a clear 'bottom up' approach to the development of the environmental movement and environmental politics in America and at least some of that comes from Carson.

As the British magazine *The Ecologist* claimed in 1999, *Silent Spring* gave a 'panoramic analysis' of the damage done to the environment by synthetic pesticide use. The book traced, it says, the 'etiology of the pesticide problem back to the chemical companies and their place in the capitalist economy. In this sense, it was a transparently political book'.[31] By the time Carson wrote the book her everyday resistance to life in a capitalist society was increasing.[32] The anti-capitalist stance of Carson's rhetoric, however clear it is at first reading, highlights why many hippies and anti-establishment young people supported it, and used it as a tool for rebelling against the capitalist society they lived in. Carson herself is often seen as apolitical, yet she was a 'progressive, New Deal-style Democratic', believing in government intervention and the importance of control from a strong state government.[33] She called for readers to question authority figures – whether that be scientists, government politicians, or even chemical companies.[34] 'Carson provided the first serious indictment of the indirect effects on the environment of a technology that seemed harmless'.[35] By 1962 the public had come to distrust technology and technological solutions; Carson's audience had become wary of its possible dangers.[36]

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[30] Ibid., pp. 553-554.
[31] Martin J. Walker, 'The Unquiet Voice of *Silent Spring*: The Legacy of Rachel Carson', *The Ecologist*, 29 (1999), p. 322.
[32] Ibid., p. 325.
[33] Lytle, *The Gentle Subversive*, p. 155.
[34] Linda Lear, 'Afterward' in Carson, *Silent Spring*, pp. 258-264; Lytle, *The Gentle Subversive*, p. 237.
[35] Thomas R. Dunlap, *DDT: Scientists, Citizens & Public Policy* (Princeton, 1981), p. 101.
[36] Ibid., p. 103.

Carson informed readers that contemporary society – with its economic, political and cultural ideas – was based upon false assumptions of humankind dominating nature and that they had a right to dominate it. She stressed that no matter how hard people tried, they would fail if they tried to control the natural world. 'According to Carson, humans were eternally embedded in their environment'.[37] When the book emerged in 1962, a vocal public criticism of pesticides, of science and of technology in general had begun, which supported Carson and her thesis. *Silent Spring*, as Maril Hazlett argues, re-lit long simmering concerns about the indiscriminate spread of toxic chemicals throughout the natural world. From *Popular Mechanics* to *Ladies Home Journal* and from New England to the Pacific coast, it appeared that everyone had something to say about *Silent Spring* and the use of pesticides. Reactions came from many sectors, including people who had not concerned themselves with environmental ideas before reading the book. Popular ecological ideas, of the kind Carson espoused, were the basis for a criticism of contemporary power in America. Ecology allowed people to make a stand against industrialisation, politics and economic systems, based on ideas that distribution and manufacture could spread chemicals through humans and rest of nature.[38] With the book's publication, 'ecology' became part of everyday language.[39]

One American supporter of Carson was President John F. Kennedy. Kennedy held the White House Conference on Conservation in 1962, the first since Franklin Roosevelt. This is an example of 'top down' environmental politics in America.[40] He invited Carson to speak before the Presidents' Scientific Advisory Committee (PSAC) in 1963, eventually releasing a report on

[37] Hazlett, '"Women vs. Men vs. Bugs"', p. 704.
[38] Ibid., pp. 704-705.
[39] Lear, 'Rachel Carson's *Silent Spring*', p. 28.
[40] Rome, '"Give Earth a Chance"', p. 532.

15 May that year, which supported much of Carson's central arguments in *Silent Spring*. The headline 'Rachel Carson stands vindicated' was run by the *Christian Science Monitor*. *Chemical and Engineering News* and *Science* magazine, both of which produced reviews of the book when originally published, which were highly critical of Carson, said they now supported her and her arguments. Committee members recommended that more extensive monitoring of pesticides was needed.[41]

Frank Graham Junior describes how when the book was eventually published in autumn 1962, editorials in newspapers across America 'generally were favourable to *Silent Spring*. Conversely the articles and reviews for national magazines were not'.[42] This also reveals something of a 'bottom up' response, although it raises the question as to who the audience would be for the newspapers and magazines and whether there would be a different audience for one or the other. It is likely that more antiestablishment people would read a newspaper than a magazine, although many people probably read neither. He continues by stating that *Silent Spring* had a major effect on public life. By the end of 1962, over forty bills had been sent through various states' legislature to control pesticide use, which again represents the impact she had on politicians and the American public.[43]

Many within the government, within the scientific community and within industry understood that the issues which Carson raised could not be won or lost through appealing to consumers. Rather they recognised *Silent Spring*, as Linda Lear points out, for what it was – a critique of the technological world. Carson publicised the sins of these establishment

[41] Lytle, *The Gentle Subversive*, pp. 183-185.
[42] Graham Jr., *Since Silent Spring*, pp. 31, 69.
[43] Ibid., p. 72.

organisations.[44] Several reviews of *Silent Spring* appeared in American journals in early 1963 in time for the British publication. A review in the American Institute of Biological Science journal *AIBS Bulletin* describes Carson as entering 'the missionary field' with *Silent Spring*. The reviewer continues, speaking on behalf of a large number of biologists that they are 'glad that this book has been written'.[45] The review is largely supportive of her. *The Wilson Bulletin*, an ornithology journal, similarly agrees with Carson's thesis. It does take note, however, that it would be 'regrettable if alarmist reaction to *Silent Spring* would result in pesticide and herbicide regulations which were unfair to the responsible farmer ... [it is hoped] that the controversy will encourage a careful review of research needs' into biological control of pests.[46] *The Auk*, published on behalf of the American Ornithologist Union also published a review in April 1963. Again the review is broadly supportive.[47]

Many of the critical reviews Carson received tended to appear in trade journals such as *International Pest Control*. An article on Rachel Carson, appearing in March/April 1963 does begin by acknowledging that some problems had occurred in the use of pesticides. 'Sugar cane insects increased and the fire-ant remained [despite aerial spraying]. One suspects some "undue influence" or, what is worse, sheer stupidity'.[48] The article then states that Carson's evidence falls into three categories – facts that are firmly established, examples that may or may not be true, and some errors. It continues by highlighting the various uses of pesticides in areas such as public health, where they are useful for malaria prevention. 'These chemicals are dangerous, but that does not mean they should not be used. We use dangerous chemicals every day', it states.

[44] Lear, *Rachel Carson*, p. 429.
[45] Frits Weit, 'Review', *AIBS Bulletin*, 13 (February 1963), pp. 41-42.
[46] Daniel Q. Thompson, 'Review', *The Wilson Bulletin*, 75 (March 1963), pp. 106-107.
[47] William H. Drury Jr., 'Review', *The Auk*, 80 (April 1963), pp. 209-213.
[48] D ORD D95 – George Ordish, '*Silent Spring* – sifting fact & fable', *International Pest Control*, (March/April, 1963), p. 16.

Written by British entomologist George Ordish, the article seeks to provide a more balanced review – whilst criticising *Silent Spring* and Carson herself, it does acknowledge the dangers of pesticide use. The article mentions renowned British biologist Julian Huxley, who wrote the preface for the British edition of the book. Huxley admits some pest control methods are necessary but highlights the central debate to Carson's ideas – that pest control 'is an ecological matter, and cannot be handed over entirely to the chemists'.[49] Biologists are concerned, first and foremost with people, animals, with nature. Chemists are concerned with molecules – the inference is that they put these ahead of people and nature and if the chemical works, it does not matter what effect it has on nature. It is true that most criticism comes from the chemical industry and that many biologists do seem to support Carson.

Following the article is a small response by a public relations officer from the Industrial Pest Control Association (IPCA), London, where the first chapter of *Silent Spring*, which creates a hypothetical world, ravaged by some unknown chemical (it plays heavily on the idea of radioactive fallout), is parodied. The IPCA representative writes about a town not ravaged by chemicals but overrun by insects due to lack of chemical control of them. 'No witchcraft ... had brought these pests and plagues to this stricken community. The people had done it themselves. They had banned the use of pesticides'.[50] The review of the book's publication in America, in the November/December edition of *International Pest Control* is just as critical. It states that newspapers 'in many parts of the USA have published reports of the articles, many taking Miss

[49] Ibid., p. 17.
[50] Ibid., p. 18.

Carson's account at face value despite the absence of conclusive wholesale evidence ... the *New York Times* even suggested that Miss Carson ... [deserved] ... the Nobel Prize'.[51]

'The Facts and Fallacies of *Silent Spring*', written by Robert White-Stevens, of American Cyanamid Company begins with no mention of *Silent Spring* at all, merely spelling out the current situation in agriculture in the United States. It is a page and a half before the book is mentioned. White-Stevens says that for Carson, the kind of writing present in her book 'is clearly a new experience' even though she was an established government scientist for many years and edited scientific publications for the government.[52] He is also critical of naturalists in general. 'To the Naturalists, the lovers of wildlife, of virgin forests ... it [*Silent Spring*] is regarded as catastrophic, although one suspects that they are none the less glad to be living along with us to partake of the particular advantages thereof'.[53] Interestingly, White-Stevens also highlights Carson's more romantic overtones to nature through her writing, comparing that with the more agriculturalist-realistic tone he dictates. This again represents the difference between biologists and chemists and their respective views of nature (or lack of them). The 1963 review in *World Crops* is more favourable to Carson (although does not support the central tenet of the book). In 'The Rachel Carson Controversy: Some Further Contributions', however, there is a division of time into BC (Before Carson) and AC (After Carson) periods. If nothing else, this emphasises the importance that Carson's work is given by scientists and detractors.[54] The assault on Carson also increased her popularity. 'The spectre of the government and the scientific and corporate

[51]D ORD D93 – '"Poison by Pesticides", accuses US writer', *International Pest Control* (November/December 1962), pp. 12-13.
[52] D ORD D97 – Robert White-Stevens, 'The Facts & Fallacies of *Silent Spring*'.
[53] Ibid.
[54] D ORD D96 – H.S. Hopf, 'New Publications', *World Crops* (April 1963), pp. 167-168 ; D ORD B3 – T.R.E. Southwood, 'The Rachel Carson Controversy: Some Further Contributions', reprinted from *Pesticides Abstracts & News Summary*, Section A, 1963, 9 (1).

establishments ganging up' on her led many people to sympathise with the 'author who was subjected to such heavy-handed attack'.[55]

It is much clearer in America, than in Britain, as to how successful Carson was on changing government policy regarding pesticide use. PSAC invited Carson to testify, which she did, and eventually supported the central tenets of her book. And whilst the EPA was founded eight years after *Silent Spring* was published, and the Pesticides Act was passed only in 1972 (which banned DDT), it can be argued that Carson, through *Silent Spring*, did have an effect on the changing of government policy.[56] If nothing else she got the American public questioning scientific doctrine and so-called 'experts'. It is arguable whether the EPA and Pesticides Act would have occurred when they did without Carson.

With the fear of pollution that could not been seen, being potentially present in food and drink, not only was the public not as trusting towards so-called experts and government officials but were more suspicious of science in general. Added to this, many critical reviews appeared in academic or trade journals that the general public did not, routinely, have access to. Many housewives worried about the safety of their children saw environmental protection as an extension of their job as housewives. The fact that Carson was female possibly increased their support of her, although she never deliberately wrote for a specific gender, using a range of writing techniques to appeal to both sexes.[57]

The counter culture, too, found Carson's message in keeping with their beliefs to respect planet earth. Carson was by no means the first person to highlight the dangers of uncontrolled

[55] Lear, 'Rachel Carson's *Silent Spring*', p. 38.
[56] Guha, *Environmentalism*, p. 72.
[57] Rome, '"Give Earth a Chance"', p. 536; Lytle, *The Gentle Subversive*, p. 240.

pesticide use; her strength lies in her writing style and her seemingly ‘anti-establishment’ tone. Whilst members of the establishment – both scientific and government – did actively support Carson, the response to *Silent Spring* in America, especially Carson’s ideas that ordinary people read the book and take away what they want from it – her stance that people should think for themselves – appears to be more ‘bottom up’ than ‘top down’. The emergence of the environmental movement, and by association environmental politics in America, appears to have been from a more grassroots ‘bottom up’ base than ‘top down’ one. This is not a sense that comes across in the British response. There, whilst there was a counter culture, it was not as established as it was in the United States; nor did housewives have the fear of invisible pollution from radioactive fallout to worry about. In Britain, the response appears to be much more ‘top down’ than ‘bottom up’ and much more establishment led.

Chapter 2 – Britain

The response to Carson in Britain, however, was much more of a 'top down' response than in America. Whilst the counterculture, Women's Liberation Movement and organisations such as CND did lead to a more radicalised 'bottom up' response to environmental concerns, such as those espoused by Carson, it was largely through the government and particularly in the Houses of Parliament and intergovernmental correspondence, that a response to Carson is seen, which is indicative of a 'top down' response.

As in the United States, much criticism levelled at Carson in Britain came from chemists. But even these criticisms tended to be more restrained in Britain than their counterparts in America. A review in *Nature*, a British scientific journal, on 13 April 1963 states that just because she has an excellent writing style, it does not mean Carson is not a scientist.[58] The review is more balanced, giving strengths and weaknesses of the book. Geminus, in *New Scientist*, in October 1962 is seething about Carson and claims *Silent Spring* is full of errors. A letter in November of that year, to *New Scientist*, responds to Geminus and criticises his stance over Carson. The author of the letter is a fellow of the Royal Society. In June 1963, Geminus again slates Carson saying everyone 'is saying how splendid it is that a mere writer, and a woman at that, should be able to accomplish such great works.'[59] Continuing he states he finds it difficult to see why a fuss is being made. The official review in February 1963 in *New Scientist* attempts to put the book in the context of Britain and highlights the complex differences between

[58] C. W. Hume, 'An American Prophetess', *Nature*, 198 (13 April, 1963), p. 117.
[59] Geminus, 'It seems to me', *New Scientist*, 308 (11 October, 1962), p. 85; W. H. Thorpe, 'Letters – Dangerous Complacency', *New Scientist*, 311 (1 November, 1962), p. 278; Geminus, 'American Newsletter', *New Scientist*, 343 (13 June, 1963), p. 594.

Britain and America regarding pesticide use. It also criticises Carson for being one-sided. It does support her, however and praises her for a much needed book.[60]

In Britain in many ways the position regarding pesticide use was better than in the United States. This can be seen through the *Observer's* review of *Silent Spring* from 1963. Pesticides were used far less in Britain and used more responsibly; pesticide manufacturers tended to be more responsible and together with government departments were more in tune with public opinion. The review describes the process of control of pesticides in Britain at the time. Central control came under the Notification of Pesticides Scheme. Under this voluntary scheme, that appeared to have worked well, manufacturers informed the Ministry of Agriculture, Fisheries and Food (MAFF) of each new chemical before it was put out on general release. A folder containing information such as the product's composition, toxicity, the method of use and any results of experiments into the long term effects of them, was passed to two committees and examined. Neither committee had any representative of the chemical industries on them. 'In practice, virtually all new products are now notified, and the large firms bring strong pressure on the smaller firms to conform'. The review then states that there were also measures in place to protect workers using pesticides.[61] Graham mentions that 'British scientists often expressed amusement at profligate American pesticide programmes, such as those directs at the fire ant and the gypsy moth'.[62] Nevertheless, he continues, if Britain did not changes its ways, here too there would be an environmental disaster. In the second half of the 1950s owners of large estates

[60] E. B. Worthington, 'Reaping as we sow', *New Scientist*, 327 (21 February, 1963), p. 425.
[61] John Davy, 'Menace in the *Silent Spring*', *The Observer*, 17 February 1963, p. 21.
[62] Graham Jr., *Since Silent Spring*, p. 82.

found hundreds of dead birds on their lawns, suspected to have been killed by chemical spraying.[63]

That is not to say both countries were divorced from each other. In the years after 1945 the pace of technological growth accelerated and changed the face of Britain as well as America. At the same time people began to question whether this growth was wholly a good thing. 'Sceptical about the ability and trustworthiness of the experts who were supposed to be directing the new Britain, they also questioned the sustainability of a society that devoted so much of its technological capabilities to producing weapons of mass annihilation'.[64] As in the United States, so in Britain, in the post-war period an anti-technology stance began to emerge that would later feed into the counter culture, albeit in Britain on a much smaller scale than in the United States. This anti-technological stance was present before Carson published *Silent Spring*:

'The conditions for the emergence of environmental consciousness had been laid by the development of a rapidly growing, increasingly affluent and educated citizenry, and the parallel development of systematic mapping and scientific understanding both of the natural world itself and of the effects of human activity upon it'.[65]

CND, founded in 1958, in Britain, played an important role in outlining the politics and the shape of post-war society and political protest. More than simply arguing against nuclear weapons, CND 'embraced a social and cultural critique of the whole technological civilisation', which is something that Rachel Carson does in *Silent Spring*.[66] Meredith Veldman argues that

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[63] Ibid., pp. 82-83.
[64] Veldman, *Fantasy*, pp. 4-5.
[65] Christopher Rootes, 'The Environmental Movement', in Martin Klimke & Joachim Scharloth, eds., *1968 in Europe: A History of Protest & Activism, 1956-1977* (Basingstoke, 2008), p. 296.
[66] Veldman, *Fantasy*, p. 115.

CND placed in the public imagination, the idea and pictures of the middle classes protesting. Much as civil rights and anti-Vietnam protests in America radicalised the youth of the 1960s and gave them the tools of protest which were later employed in the environmental movement, so in Britain CND did a similar thing. 'Many CNDers wanted to make Britain not only safer but better, and they agreed that banning the Bomb marked a beginning in the building of this spiritually better Britain'.[67] The United States was not devoid of anti-nuclear protests; rather this appears to be a central facet in the radicalisation of many in Britain, especially members of the Labour Party, the New Left, anarchists and so forth. It was a problem, much like pesticide pollution, that was indiscriminate in who it affected.

Britain was also not divorced from its own pollution problems, when *Silent Spring* was published in March 1963. London had experienced the 'Killer Smog' outbreak in December 1952, where for a week thick smog covered much of London making it virtually impossible to continue life as normal. Over 8,000 people died as a result of the smog. It led to the Clean Air Act of 1956; it also led to a mistrust of the government due to their slow and sometimes almost selfish response. They did not appear to act until pressurised to do so in Parliament. Even then, it took almost two years for a report on the incident to appear. The smog, much like the problem Carson describes, was a pollutant, albeit in the air rather than water and ground pollution caused by unregulated pesticide use. However, the smog could be seen. It was not an invisible threat that pesticides posed. People could see it and, at least try to avoid it. This did make it memorable in people's minds; they could see the threat and associate it with the problems it caused. For instance, the transport system in London was shut down. It should be remembered, however, that

[67] Ibid., pp. 115-116.

the 'Killer Smog' was at best a regional crisis mainly affecting London and its hinterlands; those living elsewhere in the country would not have been affected in the way Londoners were.[68]

The 1960s in Britain was a time, Mark Donnelly states, when 'the rippling effects of changes in other parts of the world' were caught.[69] The baby boom generation of the later 1940s were coming-of-age. The contraceptive pill, colour televisions and computers all played a part in shaping this new era. The Britain of the later 1950s and the 1960s had moved away from the 'age of austerity' and was increasingly prosperous. Added to this in the Harold Wilson administrations of the 1960s, liberal social reforms allowed for more personal, moral attitudes over issues like abortion, divorce and homosexuality. As in America, the Women's Liberation Movement emerged in Britain in the late 1960s, students rebelled and a youth culture developed.[70] The effects were to liberate young people (and especially women) from conventional discourse. Whilst these had no direct effects of the emergence of environmental politics per se, they do represent a change to old beliefs and a society, or at least a government, willing to look at things afresh, including issues such as environmental degradation. There was a counter culture in Britain, much in the same way as that in America, although it was smaller.[71] The beliefs that everything was connected and respecting planet earth were the same. These are elements, therefore, of a 'bottom up' emergence of environmental politics in Britain.

However, even in the 1960s, Britain had a network of environmental protection organisations (the Campaign to Protect Rural England, CPRE, being one). The World Wide Fund

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[68] Peter Thorsheim, 'Interpreting the London Fog Disaster of 1952', in E. Melanie DuPuis, *Smoke & Mirrors: The Politics & Culture of Air Pollution* (New York, 2004), pp. 154-170; Peter Brimblecombe, *The Big Smoke: A History of air Pollution in London since Medieval Times* (London, 1987).
[69] Mark Donnelly, *Sixties Britain: Culture, Society & Politics* (London, 2005), p. 1.
[70] Ibid., pp. 2, 53-54, 116.
[71] Ibid., Ch 8, pp. 116-131 (especially 123-131).

for Nature (WWF), for instance, was founded in 1961. Because this network was so influential and comfortable in its relationship with the governments in Britain, it was viewed with some suspicion by members of the New Left, 'who tended to dismiss it as a special interest lobby defensive of privileged interests'.[72] Certainly there was a middle class element to most of these organisations, such as CND (although it is difficult to ascertain how many working people were interested in environmental issues). It does appear in Britain that government involvement seems to outstrip citizen demand, although again it is almost impossible, without records of how people thought at the time to fully understand who was interested in and members of the environmental movement.

The Nature Conservancy (NC), established March 1949, was an independent body created to advise the government on issues concerning conservation. It became the fourth research council in Britain, behind the Department of Scientific and Industrial Research (DSIR), established in 1919, the Medical Research Council (MRC), in 1920 and the Agricultural Research Council (ARC) in 1931. For much of its short life, it was run by Max Nicholson, who had previously worked with the post-war Labour government. Nicholson was a man who could 'get things done' and under his leadership the NC increased in stature and its investigative nature.[73] The NC represented a particular view of the natural world. 'Its leaders believed that the British countryside was the product of nature and humans and that its survival depended in many instances on humans' continuing to shape it'.[74]

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[72] Rootes, 'The Environmental Movement', pp. 296, 300.
[73] Jeremy J.D. Greenwood, '(Edward) Max Nicholson (1904-2003), *ornithologist & environmentalist*', Oxford Dictionary of National Biography -- accessed electronically 29 June 2010.
[74] Stephen Bocking, *Ecologists & Environmental Politics: A History of Contemporary Ecology* (London, 1997), p. 14.

In 1960 the NC created a specific division looking into wildlife deaths called the Toxic Chemicals and Wildlife Division (TCWD), based at Monks Wood Experimental Station in Huntington. Also at about this time, the British Trust for Ornithology and the Royal Society for the Protection of Birds established a committee investigating the effects of pesticides on birds. In 1961 it was revealed that pesticides had been used to cover seeds before planting in the spring, birds then dig them up, eat the seeds and died. A ban on seed dressing was imposed in 1962, when seeds could not be covered in pesticide in the spring (when birds dig up the seeds) but could be in the autumn (when they do not). When a similar thing was discussed in America, Graham notes, the chemical companies denied any existence of the problem. In Britain, however, he states that few people would accept the argument of either the birds get protected or people do. Many did not see the issue of pesticide use, in Britain, as an either/or situation.[75]

In this way then, it appears that Britain, at the time, was ahead of America in terms of pesticide control and awareness of issues and environmental problems. The EPA was only established in 1970, the same year that the Ministry of the Environment was created in Britain. There seems to be much more of a 'top down' influence to environmental politics, in Britain, than a 'bottom up' one, especially after Carson's book is published. One reason why the British response to *Silent Spring* is more 'top down' possibly relates to its long history of environmental problems and its awareness of the dangers of pesticide use and the government and chemical companies acting to prevent further dangers. In other words, there may be no need for a 'bottom up' response if the government were handling the situation well.

[75] Graham Jr., *Since Silent Spring*, pp. 83-86.

Graham states that the Notification Scheme is something that the industry 'always has abided by'.[76] Further he states that in the previous few years (from 1970 when his book was published) the chemical industry in Britain, under the Association of British Manufacturers of Agricultural Chemicals, had moved towards making the scheme compulsory. The reason for this shift was that many manufacturers worried about a new firm appearing and blackening the industry's image as a whole. This may then lead the government to impose tighter and stricter controls on pesticide use, which obviously the chemical companies did not want. A Bill was put forward in 1968, which was much stricter than the Notification Scheme in curtailing pesticide use. However this bill never became law.[77] In Britain at about this time, it was also discovered that pesticides affect the numbers of birds of prey, many already endangered.[78] It is clear that not only was there a growing body of opposition in Britain, convinced that pesticides had both positive and negative aspects to their use, but that *Silent Spring* had interested and enraged the public.[79] In 1967, Kenneth Mellanby's book *Pesticides and Pollution in Britain* was published. This, in many ways, was a British *Silent Spring*. Although more conservative than Carson in his ideas about pesticide use, he does acknowledge her as bringing the debate about unregulated use of chemicals into the public sphere. The book does state, however that 'Miss Carson's book was a chamber of horrors'.[80]

Among the papers in the collection of Charles Elton are two letters, one seeming to be from Elton to 'Max', likely to be head of NC Max Nicholson, and the other a reply to Elton from Max. In the first letter, Elton appears to want to get his affairs in order, and asks Max for a copy

[76] Ibid., p. 85.
[77] Sheail, *Pesticides& Nature Conservation: The British Experience, 1950-1970* (Oxford, 1985), p. 188; 'Copy of Pesticides Bill, 1968', National Archives, London.
[78] Graham Jr., *Since Silent Spring*, pp. 85-86.
[79] Sheail, *Pesticides*, p. 87.
[80] Kenneth Mellanby, *Pesticides & Pollution in Britain* (London, 1967), p. 12.

of some minutes from a meeting on the NC Scientific Policy Committee. Elton states that he had asked Sheail (likely to be John Sheail) but his 'notes on this period, which I was allowed to see and return, don't give a very true picture of this crisis and do not mention this episode at all'. The 'crisis' in question refers to a meeting in the late 1950s, 'when toxic chemicals and Carson were breaking out', discussing the spraying of pesticides on grassy verges. 'I remarked that this was going to destroy part of the heritage of English poetry'. What both this and the reply letter show is the division between scientists within different government departments, and their conflict with other scientists and with civil servants and politicians. It is also telling that Carson is mentioned almost as a frame of reference, which reveals somewhat of her impact upon the government.[81]

Silent Spring also appears in debates in both Houses of Parliament, shortly after the book had been published in Britain. This, perhaps more than most other examples (with the exception of intergovernmental correspondence, below), represents a 'top down' approach to environmental politics in Britain. On 19 March 1963 there was a debate in the House of Commons about 'Pesticides'.[82] A question was asked to the Secretary of State for Science, whether any research was being undertaken by his department and others into the effects of pesticide use on animals. The answer was 'Yes'. The science minister was then asked where this research was being carried out and by whom, as 'there is a great deal of anxiety among scientists and people generally about the possible accumulative effects of these sprays remaining in the soil'. This is evidence of 'people generally' being concerned about the environment in Britain, as

[81] 'Letter from Charles Elton to Max Nicholson', 10 September 1984 & 'Letter from Max Nicholson to Charles Elton', 13 September 1984 – both from the Collection of Charles Sutherland Elton, Ms. Eng c. 3328 A. 72, Bodleian Library, Oxford.

[82] House of Commons Debate, 19 March 1963, volume 674, cc199-200 'Pesticides' – http://hansard.millbanksystems.com/commons/1963/mar/19/pesticides#S5CV0674P0_1963O319_HOC_155 -- accessed electronically 29 June 2010.

well as members of the establishment, although he does not give further evidence on this point. The minister replied that research was being undertaken at the ARC's National Vegetable Research Station in collaboration with the Plant Pathology Laboratory of the MAFF; and by the NC in collaboration with the government's Chemical Laboratory and Weed Research Organisation. A question was then put to the minister if he had read 'the serious charges made by the distinguished scientific writer, Rachel Carson, in her book *Silent Spring*'. The minister states he and all senior members of his department had read the book, but 'a large part of it refers to ... America and is not applicable' to the situation in Britain.

In March 1963, days after the House of Commons debate, a debate occurred in the House of Lords regarding the 'Dangers from Toxic Chemicals'.[83] Carson and *Silent Spring* were used as a base from which arguments were made. Lord Shackleton, the writer of the foreword of the British edition, was involved in this debate. Shackleton, a Labour peer, wanted to draw the attention of the house to the effects of pesticides on wildlife. Lord Hailsham, who was Lord President of the Council and also a minister for science (a conservative), stated that if people wanted to live in a technological world, side effects were unavoidable. Hailsham did not think too highly of the book. 'I could not help noticing, for instance, that the review in the *Scientific American* described it as a "highly partisan selection of examples and interpretations that support the author's thesis"'. Hailsham's stance is interesting. In that debate he appeared to not support Carson at all. Later in the debate he justified the government's position and further rubbishes Carson. In a letter to Prince Philip, however, dated January 1963, Hailsham thanked Prince Philip for a copy the Prince sent him of *Silent Spring*, though he admits he had already read it.

[83] House of Lords Debate, 20 March 1963, volume 247, cc118-220 'Dangers for Toxic Chemicals' – http://hansard.millbanksystems.com/lords/1963/mar/20/dangers-from-toxic-chemicals -- accessed electronically 29 June 2010.

Hailsham acknowledged that it was 'obviously an important book... I do not think Miss Carson is guilty of exaggeration in the ordinary sense of the term'. In the debate, he stated that whether *Silent Spring* really deserved the praise to which it had been given 'is, I think, open to question'. In the letter to Prince Philip, Hailsham does state that he is anxious not to start banning all chemicals immediately.[84]

Prince Philip did send out copies of the book to several people in government, and clearly he supports Carson's thesis. When she died of breast cancer in 1964, the biggest wreath in the church where the funeral was held was from Prince Philip.[85] The fact that the letter and the debate occur only two months apart raises questions. This is a clear example of a 'top down' approach to environmental politics. In effect, members of the establishment – whether that is the monarchy or the government – are dictating to other members what to think and what to believe. Hailsham is clearly not 'anti-establishment' in any way and Prince Philip is the embodiment of it. In his original letter to Hailsham, Prince Philip questions the government trails of pellets for reducing the number of wood pigeons, and whether these pellets would affect game birds. Following this, there was a frantic correspondence between different government scientists in various departments and Hailsham, in trying to find an answer to the question.[86]

The issue of *Silent Spring*, bizarrely, brought together in Britain two divergent factions not normally known for their friendship – naturalists on the one hand and sportsmen and hunters on the other. Both had the same end goal – to prevent birds and other animals from dying.[87] The naturalists, however wanted to prevent bird deaths to enhance biodiversity and protect wildlife,

[84] 'Letter from Lord Hailsham to Prince Philip', 16 January 1963, National Archives, London.
[85] Graham Jr., *Since Silent Spring*, p. 89.
[86] 'Collection of correspondence between Hailsham and various government scientists', National Archives, London.
[87] John Sheail, *Pesticides*, p. 68.

whereas the hunters and sportsmen wanted to prevent bird deaths so there is more for them to shoot. Prince Philip falls into both categories (of naturalist and hunter), but perhaps more in the second than the first. In an article in the *Independent* in 1996, Prince Philip is said to have stated that whilst he is interested in hunting, he is still a conservationist. In India in 1961, however he shot a tiger on a hunting trip.[88] At the same time, he was president of the conservation charity WWF, which in 2010 announced its campaign for the protection of tigers.[89] 'Figures compiled from press reports by the anti-bloodsports lobby suggest that in Britain alone he has shot deer, rabbit, hare, wild duck, snipe, woodcock, teal, pigeon and partridge, and pheasant numbering at least 30,000.' According to the *Independent* article, Prince Philip has often claimed that he is not 'killing', but merely 'culling' the animals he shoots.[90] A few years after the tiger incident, he was giving speeches like the one he gave in April 1970 to the Australian Conservation Federation where he stated that an environmental revolution was occurring.[91] This makes it doubly different, from a historical point of view, to judge whether the conservation/naturalist is compatible with the hunter/sportsman. Nevertheless, it is important to recognise Prince Philip's contribution to the environmental debate in Britain, even if he is an example of 'top down' environmental politics.

In Britain at least it seems that environmentalism is a belief that appears more in the late 1960s and early 1970s. Membership to environmental organisations increased in response to predictions of the collapse of industrial society, made at the beginning of the 1970s. Books like *A*

[88] John M. MacKenzie, *The Empire of Nature: Hunting, Conservation & British Imperialism* (Manchester, 1988), pp. 309-310.
[89] http://www.wwf.org.uk/what_we_do/campaigning/year_of_the_tiger.cfm; http://wwf.panda.org/who_we_are/organization/presidents/ -- accessed electronically 30 June 2010.
[90] Jojo Moyes, 'Royals' shooting passion draws bad blood', *The Independent*, Friday 20 December, 1996 - http://www.independent.co.uk/news/royals-shooting-passion-draws-bad-blood-1315283.html -- accessed electronically 28 June 2010.
[91] Sheail, *Pesticides*, p. 226.

Blueprint for Survival and *Limits to Growth* as well as *Small is Beautiful: Economics as if People Mattered*, all products of the early 1970s, are arguably more important in the context of the 'greening of Britain' than *Silent Spring*. In *Small is Beautiful* E. F Schumacher showed how the environmental crisis was only one of three crises facing society – increasing energy shortages and a breakdown of human relations spelled disaster, hence he argues that the problem of pollution is not separate from economic, cultural and technological factors of western industrial society. *A Blueprint for Survival* advocates forming small communities, independent from big business and central control.[92]

The British government, under Prime Minister Edward Heath, created the position of Minister for the Environment, in 1970.[93] At about the same time, the *Times* identified a specific journalist, Tony Aldous, as an 'environment reporter' for the first time. Both actions represent a greater awareness in government and the press of the importance of environmental issues. Further, articles in the *Times* and especially the *Guardian* in the late 1960s and early 1970s, build on this trend. Throughout the 1960s and early 1970s, there is evidence in the press of the increasing awareness of the environment. 'Nature Conservation in the Holidays', for instance, an article from 1963 in the *Times* described how school children cleared an area of scrub land during their summer vacation.[94] 'A Tragical History of the Environment' appearing in the *Guardian* in July 1972 is a somewhat sketchy history of the environmental movement in Britain. It states that 'public policies to regulate environmental disruption go back at least as for as the Middle Ages'.[95] Sheail states that, in Britain at least, 1970 was an important year for the

[92] Veldman, *Fantasy*, Ch 10 pp. 208-245.
[93] Alan Coddington & Peter Victor, 'A Tragical History of the Environment', *The Guardian*, 12 July 1972, p. 12.
[94] 'Nature Conservation in the Holidays', *The Times*, 20 October 1963, p. 12; Tony Aldous, 'Appeasing the rising conservation lobby', *The Times*, 16 October 1970, p. 10.
[95] Coddington & Victor, 'A Tragical History of the Environment', p. 12.

environment. It was the European Conservation Year, the Ministry for the Environment was established and preparations were undertaken for the UN Conference on the Human Environment, occurring two years later. The British government produced a white paper – the first of its kind on the subject – entitled 'Protection of the Environment – the Fight Against Pollution'. A few months earlier, he continues, the Royal Commission on Environmental Pollution was created.[96] FOE, the largest environmental group in the world, and Greenpeace both represent a further link to environmental ideas emerging in Britain in the 1970s. The government's increasing interest in the environmental represent a growing 'top down' involvement in environmental politics that can be traced back to Carson, and before.

Silent Spring did stimulate debate within Parliament and raised questions to different government officials about how Britain was controlling its pesticide use. However, with the number of environmental crises since *Silent Spring*, a contemporary analysis to how successful the book was would be that there would probably have been another event, shortly after the publishing of the book, which caused a change in legislation. The 1972 UN Environment Conference may have made Britain look at all forms of pollution, including pesticides, had there not been any stringent control before that.

Fundamentally however, whilst the United States response to Carson does have elements of 'top down' politics, through the Presidents' Scientific Advisory Committee, and the chemical industry's establishment response of deriding Carson and her arguments, the response essentially is one of 'bottom up', through grassroots organisations and movements. In Britain, largely it is the opposite. There was some 'bottom up' response to Carson and the emergence of

[96] Sheail, *Pesticides*, p. 189.

environmental politics in Britain, seen in many of the same places as in America – the counterculture movement, radicalised students, CND also plays a part. The emergence of several environmental books also helped. What these books which emerged in later 1960s/early 1970s Britain do not advocate, however, and what establishment figures like Prince Philip and Lord Hailsham do not advocate, is call for a radical system of redistributing wealth. *A Blueprint for Survival* does call for society to radically change its ways; but it does not call for class and social divisions between the rich and poor to be broken down in this change. Essentially the status quo is kept, whilst the establishment change what they want. However, government scientists and politicians are worried about what people will do after reading *Silent Spring* and there is much more government chatter and establishment figures commenting on it. Nature merely becomes a commodity. In essence then, much of British environmental politics is 'top down' and not 'bottom up'.

Chapter 3 – Gender

It is worth noting that criticism of Carson did not come about in isolation. As well as questions raised about the scientific validity of the book and whether she was a proper scientist or not, questions were also raised about Carson's gender. In most reviews, even largely positive ones, after the first mention of Rachel Carson she is routinely call 'Miss Carson' rather than the standard practice of only using her surname. The title 'Miss' is significant in three ways: it informs the reader that Carson is not a doctor, and thereby surreptitiously implying she is not a proper scientist (she began work on a PhD but had to abandon it due to her families financial situation); it informs the reader that she is not married (against social norms of the time); and it informs the readers she is female (playing on the idea of separate spheres between men and women).

Oddly a couple of reviews, both positive, and a letter from an attaché at the British Embassy in Washington DC refer to Carson as a 'Doctor' rather than as a 'Miss'.[97] This may be to elevate her status but also highlights a lack of research on their part and perhaps (especially in the British Embassy letter) represents societal opinion that anyone writing such a book would likely have a PhD. It should be pointed out, however, that the attaché at the British Embassy, in a letter dated 7 November 1962, states that it is too early to judge the public response in the United States to the book but that 'I think it likely that few of them will manage to struggle through the book, which I personally found extremely difficult to read'.[98] The book is often recognised as

[97] Clarence Cottam & Thomas G. Scott, 'Review: A Commentary on *Silent Spring*', *Journal of Wildlife Management*, 27 (January 1963), pp. 151-155; Norman H. Dill, Elizabeth M. Haines, Joan Hellerman & Robert A. Jarvis, 'Review: "The Spraying Around Us"', *Torrey Botanical Club*, 90 (March-April 1963), pp. 149-152; 'Letter from Leslie Osborne, *Agricultural & Food Attaché*, British Embassy, Washington DC to J. A. Anderson, *Laboratory, Safety & Seeds Division*', 7 November 1962, National Archives, London.

[98] 'Letter from Leslie Osborne, to J. A. Anderson', 7 November, 1962.

well written and went on to become a best seller in America. This shows an establishment response, deriding Carson and her writing.

Silent Spring appeared about the same time as Betty Friedan's *The Feminine Mystique*, which spoke of women who felt there was something missing from there domesticity.[99] Friedan wrote the book for housewives telling them it is possible to be a housewife *and* get an education or get a job despite what society dictated. Carson and Friedan, although both books were published at the start of the 1960s (Friedan's book was published in February 1963), are very much products of the 1950s. Friedan was seen as a precursor of the Women's Liberation Movement in a similar way Carson was a precursor of the environmental movement. And whilst the content is very different, both look at relationships – in Friedan's, the relations between men and women, and in Carson's, the relations between humans and nature. The connection between the two authors is important – and whilst Carson was not writing for a gender specific audience, they complement each other. Friedan's call that housewives can get a job as well as spend time in the home is epitomised by Carson who is a successful writer and scientist (although she is not married which may have been a bone of contention for the more conservative Friedan).

Carson is speaking about the abuse of women as well as nature, in so far as she questions scientific norms and the technological age, which has been ushered in largely by males. Further, both ask the reader to question the status quo. Carson was writing the book in order for people to understand, and question the world around them and specifically question whether science and technology were always right. Friedan was writing her book calling for women to question their roles in society. Many reviews in professional journals described Carson as hysterical or showed

[99] Betty Friedan, *The Feminine Mystique* (London, 1963).

a witch flying in the background of the cover, subtly describing Carson as a witch.[100] In this way, Friedan and Carson are the same – both railing again male domination and prejudice. Both call on their readers to question societal norms, whether about technological benefits or the role of women.

Criticism appeared in a wide range of different publications, from *Good Housekeeping* to *Sports Illustrated*. Carson was described as being amateurish and a 'scientific journalist'. The most sexist review appeared in *Chemical and Engineering News* in October 1962. William Darby attacked her in an article called 'Silence, Miss Carson'. Although the title was the journal's creation and not his, it sets the tone for the piece. He begins by placing *Silent Spring* with those who are interested in organic gardening, anti-fluoride campaigners, and worshipers of 'natural foods'. It is significant that many readers of the journal objected strongly to Danby's characterisation of Carson and the book. Danby 'was speaking as someone whose power was being undermined'.[101] The *Ecologist* describes how, fifty years earlier than Carson, in 1897, the editor of *McClure's* magazine asked Ida Tarbell to research the Standard Oil Company, part of the Rockefeller empire. In 1902 she presented the editor her report, which was a history of corruption and illegal business deals. Tarbell, in a pre-run of fifty years later, was accused of sensationalism and ignorance. 'It was frequently said that she was not a business woman, only a writer'.[102] This places Carson with a historical trend, not only of commenting on the dangers of pesticide use, but also of being criticised by a male-dominated chemical industry.

The sexist arguments levelled against Carson further show a weakness on behalf of her critics – if they have to resort to criticising her gender then their arguments are weak, as these

[100] The imagery of a witch is mentioned in Hazlett, '"Women vs. Men vs. Bugs"', pp. 706-707.
[101] Smith, '"Silence, Miss Carson"', pp. 737-739.
[102] Walker, 'The Unquiet Voice', pp. 323-324.

criticisms, as compared with a criticism of her science, were easy to make. It made it look like they had nothing else to criticise her on. Before *Silent Spring*, cultural ideology of gender was polarised into different categories of masculine and feminine. 'In Carson's thinking, the human body came to grow the missing ecological link that joined humans and nature'.[103] The idea of Mother Nature – that it is female – fits with Carson's science when studying it, whereas subjects like chemistry is a man's world, which Carson crosses into through the arguments in the book. 'According to Carson, humans were elementary embedded in their environment'.[104] Carson's biggest threat, however, as Hazlett understands, was not was a hysterical, angry and powerful woman which her critics tried to cast her as. Rather Carson blurred the categories of nature on the one hand and humans on the other and this represented one striving to change a societal system that was based similar opinions.[105] By stepping outside this system giving meaning to the connections between hysteria, witchcraft and alternative visions of nature, Carson, as a female author is in a male dominated world and in a period of 'The Feminine Mystique'. It is a world where the arguments of separate spheres are still used, and she represents a 'bottom up' approach to understanding nature. Carson is going against the societal norm, in other words, and the male scientific establishment did not like that.

One main criticism of *Silent Spring* – that it is one-sided – is to an extent justified. Certainly Carson may have silenced some critics who comment that she ignored the positives of pesticides. But how far those critics would then find something else to criticise her on, is unclear. May Berenbaum in an article in the *Washington Post* from 2005 comments that neither side is successful if they just pick apart the failings of the other. 'What's needed is a recognition of the

[103] Hazlett, '"Women vs. Men vs. Bugs"', p. 703.
[104] Ibid., p. 704.
[105] Ibid., p. 710.

problem's complexity [the fighting of malaria] and a willingness to use every available weapon to fight disease in an informed and rational way'.[106] In other words, pesticides should not be written off completely, but care should be taken when used. But Carson herself never explicitly stated that all pesticides should be banned; rather in *Silent Spring* she wants more regulation of them, something her critics often fail to pick up on.

It is interesting that almost all the criticism levelled at Carson comes from men. This is not overly surprising considering the effect of the 'Feminine Mystique' on women in this period. However it is surprising the lack of comment made by female politicians and those in authority positions. This might have simply been because they were not aware of Carson or the arguments she put forward, or that not many women were in positions of authority. Perhaps they were not able to speak out in support of her. It is telling nevertheless that most critics using sexist language were male.

The American, suburban housewives described by Rome, who were concerned about the environment, were inherently white, middle-class and university educated. This did not mean they did not make effective environmental campaigners; rather it represents the complexity of the 'top down' and 'bottom up' approach. Whilst the women, many of them caught in Friedan's 'Feminine Mystique', were inherently an under represented group, precisely because of their gender, their class and status, living in suburbia can place them as somewhat establishment figures. In a speech to a group of journalists, Carson specifically acknowledged that many women would be quicker to share her concern for the environment than men would. 'Women

[106] The article, 'If Malaria's the Problem, DDT's Not the Only Answer' by May Berenbaum, originally appeared in the *Washington Post*, Outlook Section, (5 June, 2005), B3. It is reproduced in Thomas R. Dunlap, ed., *DDT, Silent Spring & the Rise of Environmentalism: Classic Texts* (Seattle, 2008), pp. 136-139. The quote is as it appears in Dunlap.

have a greater intuitive understanding [of nature and environmental damage] ... They want for their children not only physical health but mental and spiritual health as well'.[107] Brooks states that Carson said in a letter at the time, how she had come to write the book. 'If I had not written the book I am sure these ideas would have found another outlet. But knowing the facts as I did, I could not rest until I had brought them to public attention'.[108]

Silent Spring is apolitical, yet carries an anti-capitalist, anti-technology message. Carson is not overtly political yet has been described as a New Deal Democrat. She was not only criticised therefore because of her gender but also because of her politics. Here too, she wants to alter the status quo and the fact so many ordinary American citizens, especially housewives, as with *The Feminine Mystique* support her must have been a big fear of the agrichemical companies. Although the New Left in both Britain and America were suspicious of the environmental movement, it developed more rapidly in America than in Britain. Critics of Carson, and even supporters, fail often to place her within a wider historical context.

Carson is from a long line of writers discussing the environment and the problems of capitalism, such as Karl Marx, Ernest Haeckel, and Charles Darwin.[109] Haeckel was the first to use the term 'ecology' in 1866 in his book *Generelle Morphologie*. He was a Darwinist and emphasised the closeness between animals and humans. Haeckel 'helped to shift biology away from affinities with classical science philosophy, towards a holistic view, carrying a message for humans about the society-nature relationship.'[110] Marx critiqued capitalist society, in a similar (though more direct) way to Carson. Darwin caused people to think about the interconnectedness

[107] As quoted in Rome, '"Give Earth a Chance"', p. 536.
[108] Paul Brooks, *The House of Life: Rachel Carson at Work* (London, 1973), p. 228.
[109] 'The Powerboat & the Planet'.
[110] Pepper, *Modern Environmentalism*, pp. 184-188.

of nature and humans. The difference between them and Carson, other than her gender, is that Carson's book is published in the eye of the global media. Whilst *Silent Spring* was not published in the days of the internet, television was increasingly becoming common in households on both sides of the Atlantic. Newspapers were read by millions; publicity of the book in discussion pieces and articles in magazines and the daily newspapers would possibly have been common. It would be much easier to hear about the book then, in 1962/1963 than in the nineteenth century when Marx, Haeckel and Darwin lived.

Conclusion

The mid 1960s saw Carson's predictions about mankind destroying the environment come true. A study in 1965 revealed that across the entire United States, only one river near a major urban area, the St. Croix between Minnesota and Wisconsin, remained free from pollution. A sanitation strike in New York City nearly brought the city to collapse. Tons of uncollected rubbish piled up. Then in November of that year, a power failure caused seven New England states and two Canadian provinces to be without power. In New York this occurred at rush hour, where hundreds of thousands were stranded on the subway and in lifts. As Mark Hamilton Lytle points out, 'These events exposed the fragile infrastructure on which the modern social order rested'.[111] In January 1969, the Santa Barbara oil spill occurred. Los Angeles was ninety miles to the south of one of the richest supplies of oil in America. A well burst, and people enjoying the beaches on the Californian coast were shocked to see oil billowing out of the well. Although it was soon capped, few locals 'were surprised to learn that Union Oil [the well owner] was operating below state and federal standards when the well blew'.[112] In June 1969 the Cuyahoga River in Cleveland, Ohio, which had for a long time been used to dump industrial waste, caught fire. These played out against a backdrop of the Vietnam War which by 1969 became 'environmental' as well with Dow Chemicals producing napalm for the American army and the use of Agent Orange also an issue. On 22 April 1970, twenty million Americans and many more millions globally celebrate the world's first Earth Day.[113]

In the years since *Silent Spring* was published, as Guha states, not many people read it. The world has moved on. There are more environmental disasters, and they occur with more

[111] Lytle, *The Gentle Subversive*, p. 207.
[112] Ibid., p. 208.
[113] Ibid., pp. 208-212; Rome, '"Give Earth a Chance"', p. 550.

frequency, which means that *Silent Spring* is no longer a shocking expose on man's destructive nature, but just another account of environmental destruction.[114] To distinguish between the American and British responses to the book – American with a more 'bottom up' response and Britain with a more establishment-based 'top down' response – is perhaps simplifying things too much. It is clear that the government and establishment figures in Britain did react to *Silent Spring* – Prince Philip sent out copies to government scientists in advance of the British publication – and the book had a monumental response in America, far more so than in Britain where little historical scholarship has been written about it. In Britain supporters of *Silent Spring* in the establishment, supported it with the knowledge that they wanted to keep the status quo. In America, the counter culture and young people who read and supported Carson, as well as the housewives who saw her as somewhat of an inspiration, saw *Silent Spring* as a critique of modern day society.

The *Ecologist*, in 1999 pointed out that books 'do not change the world; people do.'[115] Yet Linda Lear, in the afterword of *Silent Spring* states that 'Very few books change the course of history. Those that have include Karl Marx's, *Das Capital*, Adam Smith's, *The Wealth of Nations*, Charles Darwin's, *The Origin of Species* and, in the United States, Harriet Beecher Stowe's, *Uncle Tom's Cabin*. Rachel Carson's *Silent Spring* is another.'[116] Whether books do or do not change the world or history is not that important. What is important is that both the *Ecologist* and Lear see Carson and by extension *Silent Spring* as world-changing. Carson was a reluctant heroine; she was not as radical as Gandhi and did not lead a movement for change like Martin Luther King, Junior. Her death from breast cancer in April 1964 was premature and

[114] Guha, *Environmentalism*, p. 70.
[115] Walker, 'The Unquiet Voice', p. 325.
[116] Lear, 'Afterword', in Carson, *Silent Spring*, p. 258.

meant that she did not live to see the founding of the EPA in 1970, nor DDT being banned in 1972.[117] She discovered she had cancer whilst she researched and wrote the book. Yet she carried on regardless.

Nevertheless it took ten years before DDT was banned in America and still did not prevent its manufacture and nor did ban the chemical internationally. Fred Pearce, a former editor of *New Scientist*, as recently as 2007 laments the banning of chemicals such as DDT. He uses the example of malaria to argue that DDT should not have been banned and that since South Africa banned it in the mid-1990s malaria has increased tenfold. When this was reversed in 2001, rates decreased again. 'Meanwhile, many of the fears over human health raised by Carson ... have not been realised. Carson suggested that DDT could cause liver and breast cancer, but there is still no evidence of that, whereas the evidence that it saves lives by killing malaria is irrefutable'.[118]

Brooks also describes *Silent Spring* as a book that changed history 'not through incitement to war or violent revolution, but by altering the direction of man's thinking'.[119] This places the book in the same category as those above. The time was ripe, he continues, for such a book, with the author already having an international reputation. Brooks was Carson's publicist and agent so there is, to a certain degree, an inherent bias which should be acknowledged when his arguments are read. Later he states that the file containing the research undertaken for the book clearly proves wrong 'those who claimed, after the book was published, that Rachel Carson's concern with the cancer hazards in pesticides was exaggerated because she had cancer

[117] Guha, *Environmentalism*, p. 72.
[118] Fred Pearce, 'How the world let malaria off the hook', *New Scientist*, 195 (6 October 2007), pp. 58-59.
[119] Brooks, *The House of Life*, p. 227.

herself. She had reached her conclusions long before that tragic discovery'.[120] When this statement is compared with Pearce's it is clear both are polar opposites. That does not mean that both are incorrect. It is very difficult to undertake research into whether a substance such as a pesticide is a carcinogen. Further, Brooks does not state what the evidence in the research file is (presumably indicating that the examples Carson uses in *Silent Spring* are the strongest and most convincing). But nor does Pearce cite any evidence which definitively negates the cancer-causing properties of pesticides.

How successful Carson was, is debatable. In Britain, books like *A Blueprint for Survival, Limits to Growth*, and *Small is Beautiful* arguably had more impact than Carson did. Most of her examples were from America. In America also other books published in the 1960s, *The Population Bomb* by Paul Ehrlich, which warned of the problems of unsustainable population growth, and Garret Hardin's essay 'The Tragedy of the Commons' were perhaps just as important to the American environmental movement as Carson was. The British government did not create the position of Minister for the Environment until 1970, about the same time that the *Times* began having a dedicated reporter for environmental issues. And with the first United Nations Conference on the Human Environment, held in Stockholm in 1972 then perhaps Britain's environmental decade was not the sixties but the seventies.

A Blueprint for Survival was criticised of exaggeration and at least some of the doomsday theorists alarming bias towards poorer countries. It ignored the vastly disproportionate share of the world's wealth gobbled up by industrial corporations and consumers. As a recent issue of the magazine *New Internationalist* discussed, in order to solve contemporary

[120] Ibid., p. 256.

environmental problems, poverty and social problems must also be solved. Fundamentally, this is not something that *A Blueprint for Survival*, Prince Philip, or even the British government, to an extent, connect together. The first two call for more community based action and smaller state, more local control, but not for a breaking down of class barriers or a redistributive, fairer taxation system. In essence they call for change within the present societal status quo. The government does try on occasion to reduce poverty levels, but this is not done for an environmental concern. The two issues are often kept separately. Under the impact of environmental disasters in the late 1960s and early 1970s it was the dangers of uncontrolled growth, industrial capitalism, and a sense of government inactivity that caused the creation of militant environmental movements such as FOE.[121]

In Britain, there is also a contrast between the NC on the one hand, which was an independent organisation, but nevertheless can be seen as a scientific establishment body, and its director for much of its life, Max Nicholson on the other. Nicholson was not anti-government in any real way, but he did write a critique of the civil service. He was also somewhat of a radical, turning down honours when they were offered to him. Thus even within the establishment in Britain you get a 'bottom up' response to environmental degradation.[122] CND also had an anti-establishment contingent to it, and this can be seen in some ways as a forerunner for future environmental protest. The Conservation Society, established 1966, by 1970 had begun to challenge arguments against economic growth as well as focussing on conservation issues and population growth. A result of post-war affluence, the Society helped set up an environmental

[121] 'The Powerboat & the People'; Hughes, 'Inequality costs the earth', pp. 16-19.
[122] Greenwood, 'Max Nicholson', Oxford Dictionary of National Biography.

agenda in Britain and 'emerged in the context of widespread faith in the gospel of growth'.[123] The Society folded in 1987, but it represents another example of environmentalism in Britain in the later sixties and seventies.[124]

Criticism of Carson, perhaps more so than anything else, highlights differences between class and gender still prevalent in the 1960s, on both sides of the Atlantic. Carson, indirectly, might have helped the future Women's Liberation Movement and helped Betty Friedan highlight examples of how women could be successful in the work place. That is not to say, however, that Britain was totally divorced from America. Both had a history of pollution of varying sorts, and even as America made its mark on the world as a super power, the close political relationship between the two nations was present. It is interesting to note that in America, whilst Carson was originally read by Democratic President John F. Kennedy, the EPA was set up under a conservative Republican President, Richard Nixon, and whilst the NC was established under a socialist Labour government, the Ministry for the Environment, was created under the leadership of a Conservative Prime Minister, Edward Heath. This shows that some environmental issues are devoid of politics.

Rachel Carson should be recognised for adding to and, for some people beginning, the debate surrounding pesticide use and the larger debate concerning industrial capitalism. This 'transparently political book', written 'by an advocate' whose 'everyday resistance to life in a capitalist society was finely and uncompromisingly tuned' may not have the relevance today it had nearly fifty years ago.[125] It may even be routed in a tradition of environmental thinking that goes back to the nineteenth century, drawing on everything from native beliefs about nature to

[123] Veldman, *Fantasy*, pp. 217-222.
[124] Ibid., p. 222.
[125] Walker, 'The Unquiet Voice', pp. 322-325.

the scientific ecology espoused by Haeckel; from eastern religions such as Buddhism to the social analysis of Karl Marx and Frederich Engels; from Charles Darwin to Walt Whitman and the civil disobedience of Gandhi and the civil rights movement.[126] Nevertheless it is still an indictment of global capitalism and the dangers of uncontrolled growth.

Carson also drew on research and examples obtained from a wide selection of people. The impact *Silent Spring* had, in the United State at least, is clear. In Britain, its impact is harder to judge. But even here it with establishment figures such as Prince Philip taking up Carson's arguments, it created debate and discussion, prompting two parliamentary debates and discussions surrounding pesticide use and British agricultural methods. Therefore, if nothing else, Carson was successful in getting people talking about these issues.

[126] 'The Powerboat & the Planet'.

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